BRETT LITTLETON

YTTRIUM

Element Symbol: Y

Atomic Number: 39

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Yttrium is a soft, silver-metallic, lustrous and highly crystalline transition metal in group three.

The tale of its discovery is quite interesting, involving several individuals. Lt. Carl Axel Arrhenius (1757–1824), born in Stockholm, served as a lieutenant at the Svea artilleriregemente stationed in Vaxholm; taking part in the campaign in Finland in 1788. During his time in Vaxholm he visited the feldspar mine in Ytterby. He found a dark mineral which he named ytterbite after the nearby village. After Arrhenius gave a sample of the new mineral to Johan Gadolin (1760–1852), a Finnish chemist and Mineralogist, Godolin subsequently discovered the oxide of yttrium in Arrhenius' sample in 1789. Anders Gustaf Ekeberg (1767–1813), a Swedish chemist, confirmed Gadolin's analysis, naming the new oxide yttria.

Ytriium is relatively abundant in the earth's crust; being the 28th most common element therein, and 400 times more common than silver. Interestingly, lunar rock samples collected during the Apollo program have unexpectedly high yttrium content. The most important use of yttrium is in making phosphors, such as the red phosphors used in television cathode ray tube displays and in LEDs. Other uses include the production of electrodes, electrolytes, electronic filters, lasers and superconductors. The radioactive isotope yttrium-90 is used in a range of different drugs, for the treatment of cancers, including lymphoma, leukemia and bone cancers.

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ARTISTS DESCRIPTION

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